What is claimed is:

1. A photosensor for color measurement based on three spectral components comprising:

an interference filter structure;

a sensor chip having at least three partial surfaces of different sensitivities for detecting the three spectral components through said interference filter structure which precedes said sensor chip partial surfaces;

said interference filter structure containing three different alternating layer systems of silicon dioxide and titanium dioxide for selective transmission of incident light into the different partial surfaces of the sensor chip;

said partial surfaces providing measurement values in response to said selectively transmitted incident light;

said three partial surfaces covered by different interference filters of said filter structure being adapted to the spectral characteristic of the human eye;

said partial surfaces being arranged so as to be distributed in a sector-shaped manner around a central point with passive webs located therebetween; and

each interference filter having a transmission characteristic over the wavelength of the light to be measured spectrally being adapted to the response of the human eye in such a way that the product of the base sensitivity of the photosensor and the transmission of the interference filter is proportional to the normal spectral value curve of the human eye for the relevant coordinate of the color space, so that the passed spectral components generate measurement values in the partial surfaces, which measurement values can be converted into spectral color values with simple scaling relative to one another in the color space.

2. The photosensor according to claim 1, wherein the transmission characteristic for each partial surface of the sensor chip having different sensitivities is produced as a computer-simulated alternating layer system with different layer thicknesses of TiO_2 and SiO_2 with a tolerance of the layer thicknesses of at most 2%.

3. The photosensor according to claim 2, wherein an arrangement is provided for linear correction of the measurement values put out by the partial surfaces to compensate for deviations in layer thickness caused by manufacture.

4. The photosensor according to claim 3, wherein the arrangement for linear correction of the output measurement values involves non-local or global matrixing.

5. The photosensor according to claim 3, wherein the arrangement for linear correction of the output measurement values involves a local matrixing for the selected color space.

6. The photosensor according to claim 1, wherein the interference filters are arranged directly on semiconductor diodes of the sensor chip.

7. The photosensor according to claim 6, wherein the interference filters are arranged directly on silicon diodes of the sensor chip.

8. The photosensor according to claim 7, wherein the interference filters are arranged on Si diodes which were produced by PIN diode technology specially adapted for the visual spectral region.

9. The photosensor according to claim 7, wherein the interference filters are arranged on Si diodes which were produced by CMOS technology specially adapted for the visual spectral region.

10. The photosensor according to claim 6, wherein the interference filters are arranged directly on a sensor chip with germanium diodes.

11. The photosensor according to claim 6, wherein the interference filters are arranged directly on a sensor chip with diodes based on InGaAs.

12. The photosensor according to claim 1, wherein the interference filters are arranged over the semiconductor diodes of the sensor chip on a separate glass plate.

13. The photosensor according to claim 1, wherein the partial surfaces on the sensor chip which are covered with adapted interference filters and have different sensitivity are shaped as thirds of a circle area and are arranged around a central point.

14. The photosensor according to claim 1, wherein the partial surfaces on the sensor chip which are covered by the adapted interference filters and have different

sensitivities are arranged around a central point as sectors of a circle area with different surface contents, wherein the different surface contents are adapted in such a way that a lower base sensitivity of one partial surface which comes about because of limited wavelength transmission of the respective interference filter is compensated by a correspondingly greater surface content of the partial surface of the The photosensor.

15. The photosensor according to claim 1, wherein the partial surfaces on the sensor chip which have different sensitivities because of adapted interference filters are arranged around a central point in the shape of rhombuses with a 120-degree angle, so that they form a regular hexagon as a tricolor segment.

16. The photosensor according to claim 15, wherein the tricolor segments are arranged on the sensor chip so as to be uniformly distributed around a plurality of central points with identical webs, so that the tricolor segments are arranged in a honeycombed manner, wherein partial surfaces having identical spectral response do not share any adjacent lateral edges.